

REGIONAL QUARTERS RENTAL SURVEY

COVERING

GOVERNMENT-FURNISHED QUARTERS

LOCATED IN THE

GUAM SURVEY REGION

(REGIONAL SURVEY DATE: June, 1999)

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I. SURVEY BACKGROUND.

The Quarters Management and Information Systems (QMIS) Office coordinated a contractor-conducted field survey of the private rental housing market in Guam during the months of May and June, 1999. This survey was undertaken as specified in the Office of Management and Budget (OMB) Circular No. A-45, "Rental and Construction of Government Quarters", dated October 20, 1993. OMB Circular A-45 provides for reconfirmation of the market based rental rates at least once every five years, or sooner, if conditions warrant. As stated in the Circular, "this circular sets forth policies and administrative guidance to be used by executive agencies in establishing and administering rental rates and other charges for Government rental quarters and related facilities located within the fifty states, the District of Columbia, and the **territories and possessions** of the United States."

In 1996, it was determined that the survey method could be used to establish the rental charges for the Navy's civilian-occupied housing. However, in meetings with Navy housing occupants and managers, and with local property managers, it was decided that the contract rents of Guam market comparables should be adjusted to reflect the fact that as many as 20-50 percent (an average of 35 percent) of private rental units in Guam are occupied by extended families (i.e. two (or more) families occupying one rental unit). It was generally agreed that this social phenomena has exerted an upward pressure on rents in Guam. That is, landlords have set (artificially) high rents knowing that many rental units will be occupied by several income earners, who can collectively afford to pay the higher rents. Military members, who make up the other major category of renters, receive housing allowances, designed to compensate for the relatively high rents that prevail in Guam.

Using unadjusted market rents as the basis for setting rents for the Navy's housing would put civilian occupants at a disadvantage, because Americans (from the mainland) typically do not occupy dwellings on an extended family basis. Even if they did, Navy regulations do not permit more than one family to occupy one apartment or house (that is why the Navy refers to the housing as "family housing").

In order to adjust for this aberrant market influence, the QMIS Program Office proposed an adjustment factor that assumed that on average, the rents of about 35 percent of the market rentals are twice what they would be if they were single-family occupied. That is, landlords, realizing that there are two or more income earners in many of their units, are charging about twice the rent that they would otherwise collect if the units were singly occupied. The compensating adjustment factor was calculated by multiplying 35 percent times .5 (to reflect the rent on average is twice as much as it should be). Thus, the rents of all of the comparables used as samples in the Guam survey were reduced by $(35 \times .5) = 17.5$, or 18 percent. Essentially all of the people with whom the QMIS representative, met felt that this adjustment would provide an equitable offset to the artificially high Guam "market" contract rents. This extended family phenomenon and landlords pricing according to Navy rank (thus knowing the housing allowances) still exists in 1999.

Except for this across-the-board adjustment to the rents of the Guam comparables, the collection and analysis of rental housing data were accomplished employing methods similar to those used in previous surveys. Automated and manual analytical procedures were used to establish base rental rates for houses (including plexes) and apartments.

The objective of regional surveys, as set forth in OMB Circular No. A-45, is to develop reasonable rental rates based upon the ". . . typical rental rates for comparable private housing in the general area in which the Government quarters are located." The policy set forth in OMB Circular A-45 is as follows:

"Rental rates and charges for Government quarters and related facilities will be based upon their "reasonable value. . . to the employee. . . in the circumstances under which the quarters and facilities are provided, occupied, or made available. . . reasonable value to the employee or other occupant is determined by the rule of equivalence; namely, that charges for rent and related facilities should be set at levels equal to those prevailing for comparable private housing located in the same area, when practicable. . ."

The regional survey method uses regression analysis techniques to establish a base rental rate for a given type of quarters that reflects the typical rate for that type of housing in the survey area. Regression analysis allows the QMIS Office to establish adjustments that reflect: (1) the contributory value (+ or -) of housing features that the private rental market indicates are significant; and (2) relevant social and economic factors that are manifested in the rent levels of individual communities. Because regression analysis permits assessment of (and adjustment for) different locations, as measured by market rents, several localities or states can be surveyed at a time to minimize data collection costs; and the rates can be individualized for communities or areas significantly at variance with the regional rent pattern.

The resulting product (finalized rental rates), when derived from carefully applied automated statistical analysis, provides a logical and equitable base rental rate structure supported by the market rental rate pattern of the region and the community.

II. CONTRACTING FOR THE PRIVATE RENTAL SURVEY.

A. Determination of the Survey Area.

The communities from which the comparables (samples) were taken are shown in Table 1, below. In accordance with OMB Circular A-45, communities with 1990 census populations below 1,500 were not analyzed.

TABLE NO. 1

COMMUNITIES SURVEYED

<u>COMMUNITY AND STATE</u>	<u>1990 CENSUS POPULATION</u>	<u>Number of Samples</u>
Guam	108,911	200

B. Determination of the Housing Classes to be Surveyed.

As in the case of other recent surveys, a decision was made to have the contractor survey only those housing classes for which the Government has quarters. Thus, this survey was limited to house and apartment comparables.

The contractor was instructed to select as comparables, housing built to Housing and Urban Development (HUD) minimum housing standards, wherever possible. The contractor was also instructed to obtain varying numbers of comparables for each housing class in each of the surveyed communities. The number of samples was roughly related to the expected availability of samples in each housing class in each community.

C. Utility Consumption and Charges.

To ensure reliability of the utility consumption estimates for housing where consumption is neither metered nor measured, this report uses a series of contractor-developed space cooling consumption tables for each general type of housing represented in the survey. These tables are based upon independent studies of energy consumption using a methodology meeting housing industry standards. The results reflect energy consumption for variously sized

single-family houses with and without basements, and for apartments. Tables are also provided for estimating unmetered electricity and fossil fuel consumption of household appliances; as well as unmetered water (and sewer) usage. A complete discussion of the utility consumption/cost methodologies is contained in Section V.

D. Contractor Selection.

The Department of the Interior, National Business Center - Denver provided procurement support and project coordination for this private rental survey. Reimbursement for survey expenses was underwritten by the U.S. Navy.

The data for the Guam portion of the survey was gathered by AGS Appraisal of Guam. A total of 200 private rental housing comparables were sampled in Guam. In addition, electrical, heating fuel, utility, appliance, and other related service charges were collected in each of the communities/areas surveyed.

III. REGIONAL SURVEY PRINCIPLES AND PROCEDURES

A. Survey Principles.

The purpose of a regional survey is to determine reasonable quarters rents, through the analysis of market rents of comparable housing in the established communities nearest to concentrations of Government housing. The process of arriving at the base rent of a structure is influenced by real estate appraisal principles, statistical limitations, and administrative principles and considerations. Often there may be a conflict among these three which necessitates a trade-off.

1. Real estate appraisal principles include matching comparables as closely as possible to the specific subject properties in physical characteristics and location, and adjusting in a logical direction for all significant differences.

2. Statistical principles involve: (a) trying to minimize the standard error of the estimate (unexplained variation); (b) getting a good match of characteristics between the properties analyzed and those the analysis is applied to; (c) obtaining a large and diverse sample; and (d) making adjustments for factors that are significant in explaining variation. Ideal samples may not always be available in the market; and market searches may be limited (like appraisals) due to time and budget constraints.

3. Administrative considerations recognize that Government housing is usually not located in or near established communities, and that physical characteristics (such as in historical houses, one-room cabins, lookouts or dormitories) are difficult to match in the market. Government quarters are often found in areas influenced by tourism or boom/bust natural resource development that may produce unreasonable rents. Consistency and relative reasonableness, as well as time and budget constraints, must also be taken into consideration.

While trade-offs among these three considerations may result in a less than ideal application of any one of the three principles, the goal is still to produce "reasonable" quarters Monthly Base Rental Rates that are relatively consistent with local market rents for similar housing; that are internally consistent and logical from one unit to another; and that represent reasonable value to the employee.

B. Multiple Regression Procedures Used in Rental Rate Computations.

There are several reasons for using the regional survey method to arrive at quarters rental rates. These include accuracy, consistency, fairness, cost effectiveness, economy, and the provision in OMB Circular A-45, that regional surveys are the preferred method.

Typically in the past, quarters rents have been reset every five years using individual appraisals for each unit. The appraisal process normally relies upon the use of a small number (2-4) of comparables for each subject Government quarters unit and makes logical or market abstracted adjustments to each comparable. In many instances the same comparables are used to establish rental rates for several quarters. Thus the selection of comparables becomes critical. Individualized appraisals often led to inconsistencies among units in the same area. Many times different agencies, managing similar or identical housing units in the same area, had substantially different rents after analyzing the same rental market. Appraisers valuing several different units using separate sets of comparables and adjustments can also sometimes arrive at rents not logically related to one another. Finally, the appraisal process requires a considerable amount of travel, and individualized writing, typing and editing of appraisal reports, which is expensive and very time consuming.

The regional survey method, on the other hand, relies upon much larger samples of comparables. These samples are analyzed, statistically, to objectively determine the factors that are significant in explaining variations in the adjusted rent of each class of comparables. Each class of comparables (houses and apartments) is analyzed separately to determine which locations and physical characteristics are important in explaining the differences in rents among individual rental units and communities. The computer program independently and objectively determines the best set of characteristics (formula) to explain the rental pattern. This formula varies for each survey region and housing class.

The rental rates are based upon an analysis of regional data and local data. The rents in all surveyed communities for houses and apartments are tested for statistical significance. Significant negative location adjustments are applied to all quarters using that community as their nearest established community. The statistical process used is called forward in-and-out, step-wise multiple regression analysis. It takes all of the variables considered and forms a matrix or grid showing how every variable is related to every other variable (cross-correlation matrix). In this phase of the analysis, significant inventory items relating to the dwelling structure are coded into the computer as variables to be tested for their impact, if any, on rent. The variable to be explained (in this case rent) is called the dependent variable, because its value is determined by that of the other (independent) variables.

In forward in-and-out step-wise multiple regression analysis, the independent variable that explains the most variation in the dependent variable (rent) is selected first by the computer and entered as Step One. The remaining variation is then recomputed, and the independent variable that explains the largest portion of the remaining variation is selected by the computer and entered as Step Two. As each new variable is added, the coefficients of all the previously entered variables are recomputed to take into account relationships among the independent variables. If a previously entered variable no longer meets the test of significance, it is removed.

As regression analysis uses the variation squared, it is highly sensitive to cases with extreme variations from the norm. Since the purpose of a regional survey is to find the typical rent for housing with certain characteristics, it is useful (and mandatory) to cull comparables with

unusually high or low rents that are apparently unrelated to their characteristics. Such non-conforming rentals tend to obscure the typical pattern. To accomplish this culling, the following steps are normally taken.

Step 1. A listing of all the comparables is checked to see that the program has proper decodes, that no rental has been entered twice, and that the data is complete for each variable to be tested. The range for each rent class is also checked.

Step 2. Regression Run 1 (square foot base formula): The purified data base is analyzed for the best fit of adjusted rent versus square feet and the logarithm of square feet. This comparison is undertaken because square footage in buildings is generally the variable that explains the most variation of adjusted rent. It is also a universal variable (one that applies to all cases) and a continuous variable (one that changes in many small increments).

Step 3. A listing is produced which shows by community the rent/ predicted rent ratio of each private rental sample. The predicted rent is one computed using the square foot base formula derived in step 2. The purpose of this listing is to screen out individual rentals whose ratios are far out of line relative to other rental comparables in the same community.

Step 4. A scattergram of rentals for each class, showing the adjusted rent by square feet, is produced to visually display the data. These scattergrams, and the listings produced in Step 3, above, are used to remove samples with unusually high or low rents in each size grouping.

Step 5. A separate variable for each community is established and entered into the next step (the full regression analysis) to see if there are statistically significant location adjustments after other adjustments have been made. Community variables are entered as dummy (yes/no) and square foot combination variables.

A crosstab run of physical features allows for selection of other variables that are significantly represented and geographically widely distributed. These variables are coded as dummy and combination variables. Continuous and discrete variables are entered as simple variables, logarithmic transformations, and in logical combinations.

Step 6. (First Full Regression Run). The screened samples for each housing class to be analyzed, along with the variables to be tested, are analyzed to find coefficients for the significant ones. The results are checked for logic and cross-correlation; normally only one form of a variable is allowed to stay in the equation. Variables with illogical results are checked to find reasons for such deviation from expected results. Such variables are normally dropped from subsequent regression runs. Sometimes the samples containing such variables are culled; however, that action (culling samples) is uncommon.

Step 7. (Other Full Regression Runs). The full regression analysis is rerun without the illogical variables and/or dropped cases. If the end results look reasonable, the coefficients

determined by regression analysis are used to compute Monthly Base Rental Rates (MBRR's) for individual Government furnished quarters.

Step 8. (Predicted Rent Tables). The coefficients of a satisfactory regression run are put into a computer program which produces a table of predicted quarters MBRR's. The base values and all possible combinations of adjustments are reviewed to ensure the results are reliable for the full range of values. If not, the cause of the problem is diagnosed and corrected, and the regression analysis is rerun, producing a revised set of coefficients. Then Step 8 is repeated, and a new set of rent tables is produced.

Step 9. (Quarters DATABASE Rent Reports). The QMIS database software produces a report listing the MBRR, and the key factors for which adjustments are made. These include the addition of charges for Government provided related facilities (see Section V) and administrative and other adjustments discussed in Sections VI, VII and VIII of this report. The Database rent reports show, for each quarters unit, the final (net) monthly and bi-weekly rental charges.

IV. ESTABLISHMENT OF MONTHLY BASE RENTAL RATES (MBRR).

A. INVENTORY OF GOVERNMENT FURNISHED QUARTERS.

The QMIS methodology relies upon an inventory of Government Furnished Quarters (GFQ) managed by the agencies and bureaus that participate in the QMIS program. Each participating agency must prepare and maintain an automated record for each quarters (dwelling) unit. These records contain information describing the structure (such as the age, size, number of rooms, bedrooms, bathrooms, condition, etc.); information pertaining to utilities, appliances and furnishings that are provided by the Government; information concerning tenant-owned appliances; and information needed to determine the applicability of administrative adjustments that may be allowable under OMB Circular A-45. Inventory records are maintained by the holding agency in local data files; computer file copies of these records are also provided by the agencies to the QMIS Program Office.

Computer software distributed by the QMIS Program Office provides several data base management utilities. The software is also capable of "reading" each inventory record; calculating a complete rent for each housing unit; and generating the necessary rental documentation. Housing managers should not use the rental rates generated by the QMIS software until the inventory data has been verified. Data elements that are in error should be corrected before producing computer generated rents. A copy of the corrected file of inventory records should be provided to the QMIS Office, which is responsible for maintaining the master interagency quarters data file.

B. Use of Base Rent Charts.

Although rental computations have been automated, producing Monthly Base Rental Rates (MBRR's) and final Net Rents for most quarters, housing managers should understand the methodology used in determining the rental rates. Therefore, a set of charts has been prepared to allow the manual computation of the MBRR's for each class of rental housing. The charts have been constructed as size/age tables for the two major categories of housing (houses and apartments). By knowing the gross square feet of the livable area (size), the age, and the housing class of a building being used as quarters, one can determine the base rent from the proper table. The charts also contain columns and/or footnotes of rent adjustments which modify the rent from the size/age table to produce a MBRR for an individual quarters unit.

The value of one refrigerator and one stove is included in the charts shown as tables 2a-d and 3a-d. If the Government does not provide a refrigerator or a range in the quarters, the value of each non-provided appliance should be subtracted from the rent.

The current values of a refrigerator and range are shown in Table 10 of this report, and may be adjusted annually by the QMIS Office to reflect changes in the Consumer Price Index (CPI) which may occur following the issuance of this report.

In selecting the appropriate rent table, it is important to remember that the design of the quarters, not its use, determines its category. Thus, a house or an apartment unit designed to be occupied by an individual or a family, but which is actually used to house unrelated individuals, would be valued as a house or apartment (the category for which it was designed to be used), rather than as a bunkhouse/dormitory. A structure that has been designed (or substantially modified) to house individuals on a dormitory basis, would be valued as a bunkhouse/dormitory. Thus, an unmodified three-bedroom house with a planned occupancy of six unrelated individuals (normally two persons per bedroom) would have a rental rate determined by calculating the rental rate for a three-bedroom house and then dividing that rate by six. This rate would change if the number of planned occupants changed. If the house was structurally modified to be used as a bunkhouse or a dormitory, the rate then would be the dormitory rate.

Based upon information provided by the contractor, deductions from the monthly contract rental rate of each rental sample were made for the contributory costs of appliances, furnishings, utilities, and services, provided and included in the contract rent. No deductions were made for central air conditioners, refrigerators or ranges; however, if a refrigerator or range was missing, the value was added to the adjusted rent. Central air conditioners are valued at their contributory value, if any. The resulting adjusted monthly contract rental rate represents the contributory value of the dwelling structure equipped with a refrigerator and a range.

The establishment of finalized monthly quarters rental charges for houses, apartments and cabins/lookouts will require the addition of charges for utilities, appliances, furnishings and services provided by the Government incidental to the provision of a quarters unit. Conversely, **deductions** will be required for the values of ranges and refrigerators when they are not provided by the Government incidental to the provision of a quarters unit.

This report provides three rental charts for single-family houses (including plexes), and four charts for apartments. Instructions have also been provided for computing rental rates for bunkhouses and dormitories and transient quarters. The use of the charts is fairly simple. First, find the chart for the category into which the GFQ fits. Next, round the square feet **down** to the nearest hundreds of square feet. Thus, if a unit had 980 square feet, the row labeled 900 SQFT would be used.

Then the age should be rounded **up** to the nearest age increment. If the dwelling at issue was built in 1977, its age would be computed as 1999 (the current year) minus 1979 (the year built. Thus, in this instance, the unit is $1999 - 1979 = 20$ years old; and the column headed by "25 YEARS OLD" should then be followed down to the 900 SQFT row to obtain the size-age adjusted rent.

The rent charts have adjustments for physical features such as the number of bathrooms, the condition of the housing, garage facilities, etc. These should be subtracted from, or added to, the size/age adjusted rent, as specified, to determine the MBRR.

When computing the final biweekly rent (netrent) to be paid, the MBRR must be adjusted to reflect the value of Government-provided related facilities (utilities, appliances, furnishings and services); and the application of administrative adjustments. Use Form DI 1880, Rent Computation Schedule, or similar form as may be used by agencies other than DOI.

Where a dwelling is larger than the highest square footage in the chart pertinent to that unit, you should use the size/age rent and adjustments of the bottom (largest SQFT) row. This may eliminate the need for some administrative adjustments due to excess size of the housing. If a dwelling is smaller than the smallest square footage, use the lowest square footage listed on the chart.

The rent for a house with more than 4 bedrooms is calculated using the 4-bedroom house rent chart. The rent for an apartment with more than three bedrooms is calculated using the 3-bedroom rent chart for apartments. The carport charge is the same regardless of the size of the carport; and the maximum garage charge is the amount for a 2-car garage. Finally, a maximum of 7 rooms and 3 bathrooms should be applied when determining the total room or bathroom charges in tables 2a-d and 3a-d.

To assist in the calculation of the MBRR of a unit, examples are provided in the following pages. The rates which appear on the following tables should allow you to establish a MBRR for almost all of your properties. However, we recognize that we might not have anticipated all situations and conditions. Therefore, housing managers should use professional discretion to set rates for truly unusual situations. In cases where you must use some other method to establish rates, please notify the QMIS Program Office, Department of the Interior, National Business Center (Code D-2910), 7301 West Mansfield Avenue, Lakewood, CO 80235-2230; telephone 303-969-7240; fax 303-969-7166. You should explain the conditions, the rate used, and your reasoning so that we may anticipate such circumstances in the future. You should retain the documentation for such actions in your files.

C. Single Family Housing.

For single family detached houses, including plexed dwellings and townhouses, use the rental chart which appropriately describes the housing class and the number of bedrooms of the subject quarters. The charts for houses are in tables 2a through 2d.

Assume for this example, a three bedroom, 1.75 bath house, that was built in 1960, and which has a 1-car garage. The house, located in Guam, is in fair condition inside and out; and has 1,185 gross square feet of finished living space. The house also has central air conditioning.

First, the chart for three-bedroom good condition houses (Table 2b) should be located and used.

Next, the size (gross finished floor space) should be rounded **down** to the nearest 100 square feet (from 1,185 to 1,100 sqft). Under the column headed "**SQFT**", the figure 1,100 should be located. Further adjustments will be taken from this row.

The appropriate age column should be selected. The house in this example is 39 years old (1999 - 1960). The age should be rounded **up** to the next highest age column, which, in this case, is the column headed "**45 YRS OLD**". Follow this column down to the 1,100 square feet row to obtain the size/age "table rent" of \$584.

The first adjustment is the extra bathroom charge. Follow the 1,100 SQFT row to the column headed "**PER EXTRA BATHROOM**". The amount shown reflects a charge of \$72 for each extra bathroom. The extra bathroom adjustment in this example is $\$72 \times .75$ (3/4 extra bathroom) = \$54.00. This amount (\$54) should be added to the rent.

The second adjustment is made for fair interior and fair exterior condition. Follow the 1,100 SQFT row to the column headed "FAIR EXTERIOR/INTERIOR*" down to the 1,100 row. The amount reflects a deduction of \$20 for a house with a fair exterior. Since both the interior and exterior are in fair condition, the total adjustment is \$-40.

The third adjustment is for central air conditioning. Follow the 1,100 SQFT row to the column headed "**A/C REF**". As instructed, add \$198 to the rent.

The final adjustment is the garage adjustment. Follow the 1,100 SQFT row to the column headed "**GARAGE (PER CAR)**". Multiply the amount shown for one car (\$60 times 1 to reflect the value of a 1-car garage ($1 \times \$60 = \60)). Add \$60 to the rent.

In summary, the adjustments that produce the Monthly Base Rental Rate for the house used in this example are shown below.

Table Rent (1,100 SQFT/45 years old)	\$584.00
Extra Bath Adjustment (3/4 bath x \$72)	+ 54.00
Fair Interior Condition Adjustment	- 20.00
Fair Exterior Condition Adjustment	- 20.00
Central Air Conditioning	+198.00
Garage Adjustment (1 car x \$60 (per car))	<u>+ 60.00</u>
Monthly Base Rental Rate	\$856.00

TABLE NO. 2a

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 4 BEDROOM, 1 BATHROOM HOUSES

SQFT	5	15	25	35	45	55	75+	PER	EXCEL	FAIR	POOR	A/C	GAR-	CAR-
	YRS	YRS	YRS	YRS	YRS	YRS	YRS	EXTRA	EXTER	EXTER	EXTER	(REF)	AGE	PORT
	OLD	OLD	OLD	OLD	OLD	OLD	OLD	BATH	-IOR/ INTER	-IOR/ INTER	-IOR/ INTER		PER	
								ROOM	-IOR*	-IOR*	-IOR*		(CAR)	
700	\$784	\$751	\$718	\$685	\$652	\$619	\$553	\$+46	\$+20	\$-20	\$-30	\$+126	\$+60	\$+25
800	\$791	\$758	\$725	\$692	\$659	\$626	\$560	\$+52	\$+20	\$-20	\$-30	\$+144	\$+60	\$+25
900	\$797	\$764	\$731	\$698	\$665	\$632	\$566	\$+59	\$+20	\$-20	\$-30	\$+162	\$+60	\$+25
1000	\$804	\$771	\$738	\$705	\$672	\$639	\$573	\$+65	\$+20	\$-20	\$-30	\$+180	\$+60	\$+25
1100	\$810	\$777	\$744	\$711	\$678	\$645	\$579	\$+72	\$+20	\$-20	\$-30	\$+198	\$+60	\$+25
1200	\$817	\$784	\$751	\$718	\$685	\$652	\$586	\$+78	\$+20	\$-20	\$-30	\$+216	\$+60	\$+25
1300	\$823	\$790	\$757	\$724	\$691	\$658	\$592	\$+85	\$+20	\$-20	\$-30	\$+234	\$+60	\$+25
1400	\$830	\$797	\$764	\$731	\$698	\$665	\$599	\$+91	\$+20	\$-20	\$-30	\$+252	\$+60	\$+25
1500	\$836	\$803	\$770	\$737	\$704	\$671	\$605	\$+98	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1600	\$843	\$810	\$777	\$744	\$711	\$678	\$612	\$+104	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1700	\$849	\$816	\$783	\$750	\$717	\$684	\$618	\$+111	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1800	\$856	\$823	\$790	\$757	\$724	\$691	\$625	\$+117	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1900	\$862	\$829	\$796	\$763	\$730	\$697	\$631	\$+124	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2000	\$869	\$836	\$803	\$770	\$737	\$704	\$638	\$+130	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2100	\$875	\$842	\$809	\$776	\$743	\$710	\$644	\$+137	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2200	\$882	\$849	\$816	\$783	\$750	\$717	\$651	\$+143	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2300	\$888	\$855	\$822	\$789	\$756	\$723	\$657	\$+150	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 2b

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 3 BEDROOM, 1 BATHROOM HOUSES

SQFT	5	15	25	35	45	55	75+	PER	EXCEL	FAIR	POOR	A/C	GAR-	CAR-
	YRS	YRS	YRS	YRS	YRS	YRS	YRS	EXTRA	EXTER	EXTER	EXTER	(REF)	AGE	PORT
	OLD	OLD	OLD	OLD	OLD	OLD	OLD	BATH	-IOR/ INTER	-IOR/ INTER	-IOR/ INTER		PER	
								ROOM	-IOR*	-IOR*	-IOR*		(CAR)	
500	\$677	\$644	\$611	\$578	\$545	\$512	\$446	\$+33	\$+20	\$-20	\$-30	\$+90	\$+60	\$+25
600	\$684	\$651	\$618	\$585	\$552	\$519	\$453	\$+39	\$+20	\$-20	\$-30	\$+108	\$+60	\$+25
700	\$690	\$657	\$624	\$591	\$558	\$525	\$459	\$+46	\$+20	\$-20	\$-30	\$+126	\$+60	\$+25
800	\$697	\$664	\$631	\$598	\$565	\$532	\$466	\$+52	\$+20	\$-20	\$-30	\$+144	\$+60	\$+25
900	\$703	\$670	\$637	\$604	\$571	\$538	\$472	\$+59	\$+20	\$-20	\$-30	\$+162	\$+60	\$+25
1000	\$710	\$677	\$644	\$611	\$578	\$545	\$479	\$+65	\$+20	\$-20	\$-30	\$+180	\$+60	\$+25
1100	\$716	\$683	\$650	\$617	\$584	\$551	\$485	\$+72	\$+20	\$-20	\$-30	\$+198	\$+60	\$+25
1200	\$723	\$690	\$657	\$624	\$591	\$558	\$492	\$+78	\$+20	\$-20	\$-30	\$+216	\$+60	\$+25
1300	\$729	\$696	\$663	\$630	\$597	\$564	\$498	\$+85	\$+20	\$-20	\$-30	\$+234	\$+60	\$+25
1400	\$736	\$703	\$670	\$637	\$604	\$571	\$505	\$+91	\$+20	\$-20	\$-30	\$+252	\$+60	\$+25
1500	\$742	\$709	\$676	\$643	\$610	\$577	\$511	\$+98	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1600	\$749	\$716	\$683	\$650	\$617	\$584	\$518	\$+104	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1700	\$755	\$722	\$689	\$656	\$623	\$590	\$524	\$+111	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1800	\$762	\$729	\$696	\$663	\$630	\$597	\$531	\$+117	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1900	\$768	\$735	\$702	\$669	\$636	\$603	\$537	\$+124	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2000	\$775	\$742	\$709	\$676	\$643	\$610	\$544	\$+130	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
2100	\$781	\$748	\$715	\$682	\$649	\$616	\$550	\$+137	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 2c

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 2 BEDROOM, 1 BATHROOM HOUSES

SQFT	5	15	25	35	45	55	75+	PER	EXCEL	FAIR	POOR	A/C	GAR-	CAR-
	YRS	YRS	YRS	YRS	YRS	YRS	YRS	EXTRA	EXTER	EXTER	EXTER	(REF)	AGE	PORT
	OLD	OLD	OLD	OLD	OLD	OLD	OLD	BATH	-IOR/ ROOM	-IOR/ INTER	-IOR/ INTER		PER	
									-IOR*	-IOR*	-IOR*		(CAR)	
300	\$570	\$537	\$504	\$471	\$438	\$405	\$339	\$+20	\$+20	\$-20	\$-30	\$+54	\$+60	\$+25
400	\$577	\$544	\$511	\$478	\$445	\$412	\$346	\$+26	\$+20	\$-20	\$-30	\$+72	\$+60	\$+25
500	\$583	\$550	\$517	\$484	\$451	\$418	\$352	\$+33	\$+20	\$-20	\$-30	\$+90	\$+60	\$+25
600	\$590	\$557	\$524	\$491	\$458	\$425	\$359	\$+39	\$+20	\$-20	\$-30	\$+108	\$+60	\$+25
700	\$596	\$563	\$530	\$497	\$464	\$431	\$365	\$+46	\$+20	\$-20	\$-30	\$+126	\$+60	\$+25
800	\$603	\$570	\$537	\$504	\$471	\$438	\$372	\$+52	\$+20	\$-20	\$-30	\$+144	\$+60	\$+25
900	\$609	\$576	\$543	\$510	\$477	\$444	\$378	\$+59	\$+20	\$-20	\$-30	\$+162	\$+60	\$+25
1000	\$616	\$583	\$550	\$517	\$484	\$451	\$385	\$+65	\$+20	\$-20	\$-30	\$+180	\$+60	\$+25
1100	\$622	\$589	\$556	\$523	\$490	\$457	\$391	\$+72	\$+20	\$-20	\$-30	\$+198	\$+60	\$+25
1200	\$629	\$596	\$563	\$530	\$497	\$464	\$398	\$+78	\$+20	\$-20	\$-30	\$+216	\$+60	\$+25
1300	\$635	\$602	\$569	\$536	\$503	\$470	\$404	\$+85	\$+20	\$-20	\$-30	\$+234	\$+60	\$+25
1400	\$642	\$609	\$576	\$543	\$510	\$477	\$411	\$+91	\$+20	\$-20	\$-30	\$+252	\$+60	\$+25
1500	\$648	\$615	\$582	\$549	\$516	\$483	\$417	\$+98	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1600	\$655	\$622	\$589	\$556	\$523	\$490	\$424	\$+104	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1700	\$661	\$628	\$595	\$562	\$529	\$496	\$430	\$+111	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1800	\$668	\$635	\$602	\$569	\$536	\$503	\$437	\$+117	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25
1900	\$674	\$641	\$608	\$575	\$542	\$509	\$443	\$+124	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 2d

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 1 BEDROOM, 1 BATHROOM HOUSES

SQFT	5	15	25	35	45	55	75+	PER	EXCEL	FAIR	POOR	A/C	GAR-	CAR-
	YRS	YRS	YRS	YRS	YRS	YRS	YRS	EXTRA	EXTER	EXTER	EXTER	(REF)	AGE	PORT
	OLD	OLD	OLD	OLD	OLD	OLD	OLD	BATH	-IOR/ ROOM	-IOR/ INTER	-IOR/ INTER		PER	
									-IOR*	-IOR*	-IOR*		(CAR)	
100	\$463	\$430	\$397	\$364	\$331	\$298	\$232	\$+7	\$+20	\$-20	\$-30	\$+18	\$+60	\$+25
200	\$470	\$437	\$404	\$371	\$338	\$305	\$239	\$+13	\$+20	\$-20	\$-30	\$+36	\$+60	\$+25
300	\$476	\$443	\$410	\$377	\$344	\$311	\$245	\$+20	\$+20	\$-20	\$-30	\$+54	\$+60	\$+25
400	\$483	\$450	\$417	\$384	\$351	\$318	\$252	\$+26	\$+20	\$-20	\$-30	\$+72	\$+60	\$+25
500	\$489	\$456	\$423	\$390	\$357	\$324	\$258	\$+33	\$+20	\$-20	\$-30	\$+90	\$+60	\$+25
600	\$496	\$463	\$430	\$397	\$364	\$331	\$265	\$+39	\$+20	\$-20	\$-30	\$+108	\$+60	\$+25
700	\$502	\$469	\$436	\$403	\$370	\$337	\$271	\$+46	\$+20	\$-20	\$-30	\$+126	\$+60	\$+25
800	\$509	\$476	\$443	\$410	\$377	\$344	\$278	\$+52	\$+20	\$-20	\$-30	\$+144	\$+60	\$+25
900	\$515	\$482	\$449	\$416	\$383	\$350	\$284	\$+59	\$+20	\$-20	\$-30	\$+162	\$+60	\$+25
1000	\$522	\$489	\$456	\$423	\$390	\$357	\$291	\$+65	\$+20	\$-20	\$-30	\$+180	\$+60	\$+25
1100	\$528	\$495	\$462	\$429	\$396	\$363	\$297	\$+72	\$+20	\$-20	\$-30	\$+198	\$+60	\$+25
1200	\$535	\$502	\$469	\$436	\$403	\$370	\$304	\$+78	\$+20	\$-20	\$-30	\$+216	\$+60	\$+25
1300	\$541	\$508	\$475	\$442	\$409	\$376	\$310	\$+85	\$+20	\$-20	\$-30	\$+234	\$+60	\$+25
1400	\$548	\$515	\$482	\$449	\$416	\$383	\$317	\$+91	\$+20	\$-20	\$-30	\$+252	\$+60	\$+25
1500	\$554	\$521	\$488	\$455	\$422	\$389	\$323	\$+98	\$+20	\$-20	\$-30	\$+270	\$+60	\$+25

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

D. Apartments.

The charts shown in Tables 3a-d should be used to calculate the rent for apartments.

Assume for this example, a one-bedroom, 3/4 bathroom apartment, built in Guam in 1973. The apartment contains 630 square feet and central air conditioning. The exterior is in poor condition and the interior is in fair condition.

First, the chart for one-bedroom, good-condition apartments (Table 3c) should be located and used.

Next, the size (gross finished floor space) should be rounded **down** to the nearest 100 square feet (from 630 to 600 SQFT). Under the column headed "**SQFT**" the figure 600 should be located. Further adjustments will be taken from this row.

Finally, the appropriate age column should be selected. The apartment in this example is $1999 - 1973 = 26$ years old. The age should be rounded **up** to the next highest age column, which, in this case, is the column headed "**35 YRS OLD**". Follow this column down to the 600 square foot row to obtain the size/age "table rent" of \$448 per month.

The first adjustment is for the less than one full bathroom. Follow the 600 SQFT row to the column headed "**PER EXTRA BATH ROOM**". The amount shown reflects a charge of \$53 for each extra bathroom. The adjustment for less than one full bathroom in this example is $\$53 \times .25$ (1/4 less than a full bathroom) = \$13.25. Subtract \$13.25 from the rent.

The second and third adjustments are for a fair interior and a poor exterior condition. Follow the 600 SQFT row to the column headed "**FAIR EXTERIOR/INTERIOR***" where a deduction of \$16 is shown; and to the next column headed "**POOR EXTERIOR/INTERIOR**", where a deduction of \$21 is shown. Subtract from the rent \$16 for fair interior condition, and \$21 for poor exterior condition.

The final adjustment is for central air conditioning. Follow the 600 SQFT row to the column headed "**CENTRAL AIR COND**", where a charge of \$92 is shown. Add \$92 to the rent.

In summary, the adjustments that produce the Monthly Base Rental Rate for the apartment used in this example are shown below.

Table Rent (600 SQFT/35 years old)	\$448.00
Less than Full Bath Adjustment (.25 x \$53)	-\$13.25
Fair Interior Adjustment	- 16.00
Poor Exterior Adjustment	- 21.00
Central Air Conditioning Adjustment	<u>+ 92.00</u>
Monthly Base Rental Rate	\$489.75

TABLE NO. 3a

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 3 BEDROOM, 1 BATHROOM APARTMENTS

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	CEN- TRAL A/C
600	\$653	\$648	\$643	\$638	\$633	\$628	\$618	\$+53	\$+10	\$-16	\$-21	\$+92
700	\$661	\$656	\$651	\$646	\$641	\$636	\$626	\$+53	\$+10	\$-18	\$-23	\$+92
800	\$668	\$663	\$658	\$653	\$648	\$643	\$633	\$+53	\$+10	\$-21	\$-26	\$+92
900	\$674	\$669	\$664	\$659	\$654	\$649	\$639	\$+53	\$+10	\$-23	\$-28	\$+92
1000	\$680	\$675	\$670	\$665	\$660	\$655	\$645	\$+53	\$+10	\$-26	\$-31	\$+92
1100	\$685	\$680	\$675	\$670	\$665	\$660	\$650	\$+53	\$+10	\$-29	\$-34	\$+92
1200	\$689	\$684	\$679	\$674	\$669	\$664	\$654	\$+53	\$+10	\$-31	\$-36	\$+92
1300	\$693	\$688	\$683	\$678	\$673	\$668	\$658	\$+53	\$+10	\$-34	\$-39	\$+92
1400	\$697	\$692	\$687	\$682	\$677	\$672	\$662	\$+53	\$+10	\$-36	\$-41	\$+92
1500	\$701	\$696	\$691	\$686	\$681	\$676	\$666	\$+53	\$+10	\$-39	\$-44	\$+92
1600	\$704	\$699	\$694	\$689	\$684	\$679	\$669	\$+53	\$+10	\$-42	\$-47	\$+92
1700	\$707	\$702	\$697	\$692	\$687	\$682	\$672	\$+53	\$+10	\$-44	\$-49	\$+92
1800	\$710	\$705	\$700	\$695	\$690	\$685	\$675	\$+53	\$+10	\$-47	\$-52	\$+92

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 3b

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 2 BEDROOM, 1 BATHROOM APARTMENTS

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	CEN- TRAL A/C
400	\$537	\$532	\$527	\$522	\$517	\$512	\$502	\$+53	\$+10	\$-10	\$-15	\$+92
500	\$549	\$544	\$539	\$534	\$529	\$524	\$514	\$+53	\$+10	\$-13	\$-18	\$+92
600	\$558	\$553	\$548	\$543	\$538	\$533	\$523	\$+53	\$+10	\$-16	\$-21	\$+92
700	\$566	\$561	\$556	\$551	\$546	\$541	\$531	\$+53	\$+10	\$-18	\$-23	\$+92
800	\$573	\$568	\$563	\$558	\$553	\$548	\$538	\$+53	\$+10	\$-21	\$-26	\$+92
900	\$579	\$574	\$569	\$564	\$559	\$554	\$544	\$+53	\$+10	\$-23	\$-28	\$+92
1000	\$585	\$580	\$575	\$570	\$565	\$560	\$550	\$+53	\$+10	\$-26	\$-31	\$+92
1100	\$590	\$585	\$580	\$575	\$570	\$565	\$555	\$+53	\$+10	\$-29	\$-34	\$+92
1200	\$594	\$589	\$584	\$579	\$574	\$569	\$559	\$+53	\$+10	\$-31	\$-36	\$+92
1300	\$598	\$593	\$588	\$583	\$578	\$573	\$563	\$+53	\$+10	\$-34	\$-39	\$+92
1400	\$602	\$597	\$592	\$587	\$582	\$577	\$567	\$+53	\$+10	\$-36	\$-41	\$+92
1500	\$606	\$601	\$596	\$591	\$586	\$581	\$571	\$+53	\$+10	\$-39	\$-44	\$+92
1600	\$609	\$604	\$599	\$594	\$589	\$584	\$574	\$+53	\$+10	\$-42	\$-47	\$+92

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 3c

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 1 BEDROOM, 1 BATHROOM APARTMENTS

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	CEN- TRAL A/C
300	\$427	\$422	\$417	\$412	\$407	\$402	\$392	\$+53	\$+10	\$-8	\$-13	\$+92
400	\$442	\$437	\$432	\$427	\$422	\$417	\$407	\$+53	\$+10	\$-10	\$-15	\$+92
500	\$454	\$449	\$444	\$439	\$434	\$429	\$419	\$+53	\$+10	\$-13	\$-18	\$+92
600	\$463	\$458	\$453	\$448	\$443	\$438	\$428	\$+53	\$+10	\$-16	\$-21	\$+92
700	\$471	\$466	\$461	\$456	\$451	\$446	\$436	\$+53	\$+10	\$-18	\$-23	\$+92
800	\$478	\$473	\$468	\$463	\$458	\$453	\$443	\$+53	\$+10	\$-21	\$-26	\$+92
900	\$484	\$479	\$474	\$469	\$464	\$459	\$449	\$+53	\$+10	\$-23	\$-28	\$+92
1000	\$490	\$485	\$480	\$475	\$470	\$465	\$455	\$+53	\$+10	\$-26	\$-31	\$+92
1100	\$495	\$490	\$485	\$480	\$475	\$470	\$460	\$+53	\$+10	\$-29	\$-34	\$+92
1200	\$499	\$494	\$489	\$484	\$479	\$474	\$464	\$+53	\$+10	\$-31	\$-36	\$+92
1300	\$503	\$498	\$493	\$488	\$483	\$478	\$468	\$+53	\$+10	\$-34	\$-39	\$+92
1400	\$507	\$502	\$497	\$492	\$487	\$482	\$472	\$+53	\$+10	\$-36	\$-41	\$+92
1500	\$511	\$506	\$501	\$496	\$491	\$486	\$476	\$+53	\$+10	\$-39	\$-44	\$+92

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE NO. 3d

THE GUAM QUARTERS MONTHLY BASE RENT CHART
FOR GOOD CONDITION 0 BEDROOM, 1 BATHROOM APARTMENTS

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	CEN- TRAL A/C
100	\$275	\$270	\$265	\$260	\$255	\$250	\$240	\$+53	\$+10	\$-3	\$-8	\$+92
200	\$311	\$306	\$301	\$296	\$291	\$286	\$276	\$+53	\$+10	\$-5	\$-10	\$+92
300	\$332	\$327	\$322	\$317	\$312	\$307	\$297	\$+53	\$+10	\$-8	\$-13	\$+92
400	\$347	\$342	\$337	\$332	\$327	\$322	\$312	\$+53	\$+10	\$-10	\$-15	\$+92
500	\$359	\$354	\$349	\$344	\$339	\$334	\$324	\$+53	\$+10	\$-13	\$-18	\$+92
600	\$368	\$363	\$358	\$353	\$348	\$343	\$333	\$+53	\$+10	\$-16	\$-21	\$+92
700	\$376	\$371	\$366	\$361	\$356	\$351	\$341	\$+53	\$+10	\$-18	\$-23	\$+92
800	\$383	\$378	\$373	\$368	\$363	\$358	\$348	\$+53	\$+10	\$-21	\$-26	\$+92
900	\$389	\$384	\$379	\$374	\$369	\$364	\$354	\$+53	\$+10	\$-23	\$-28	\$+92
1000	\$395	\$390	\$385	\$380	\$375	\$370	\$360	\$+53	\$+10	\$-26	\$-31	\$+92
1100	\$400	\$395	\$390	\$385	\$380	\$375	\$365	\$+53	\$+10	\$-29	\$-34	\$+92

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

E. Bunkhouses and Dormitories.

Bunkhouses and dormitories include only housing units that have been specifically constructed or modified for use as bunkhouses or dormitories. Single-family houses or apartments, that are used as dormitories or bunkhouses, must be valued as what they are (houses or apartments), with the rent divided by the number of planned occupants (normally 2 per bedroom).

Dormitory or bunkhouse units typically lack either a living room or kitchen, or have common baths and kitchens serving many people. Many also have multiple bunk beds in large ward-like rooms. Such housing units pose a valuation problem, as they are normally found only in association with institutions such as the military or colleges, of which its occupants are members. Since these institutions do not typically rent to the public at large, one cannot obtain an arms-length market rent.

Under circumstances where there is a lack of comparable rental data, OMB Circular A-45 provides that rental rates may be established using an extension of the Principle of Comparability. Under this procedure, rental rates are established using the most comparable rental housing available, and the rate is essentially 50 percent of the average house rent.

During the February, 1994 National Quarters Conference, the National Quarters Council decided that one aggregate monthly rate should be established for all dormitories in a survey region. This aggregate dormitory rate, which includes the value of Government-provided utilities, furnishings and services, was determined as follows.

In the Guam survey, an analysis of all single-family housing used found that the average single-family house had 1,187 square feet of finished floor space, with 2.7 bedrooms and an average monthly adjusted contract rent of \$738. By applying an extension of the Principle of Comparability, the Base Shelter Rental Rate (BSRR) for bunkhouses and dormitories was calculated as follows.

1. Average adjusted contract rent x .5 = $\$738 \times .5 = \369.00
2. $\$369.00 / (\text{average \# of bedrooms} \times 2 \text{ occupants per bedroom}) =$
 $\$369.00 / (2.7 \text{ bedrooms} \times 2 \text{ occupants}) =$
 $\$369.00 / 5.4 = \$68.35 \text{ (rounded) per month/per occupant.}$

Applicable charges were then added to this rate for utilities, services and furnishings provided by the Government. The value of these items was determined by prorating the rates prevailing in the regional survey area to a 1,187 square foot, 2.7-bedroom, single-family house occupied by 2 people per bedroom. The charge for these related facilities is \$66.35.

Monthly, weekly, and daily bunkhouse and dormitory rates are shown, below, in table 4.

TABLE NO. 4
BUNKHOUSE/DORMITORY RENTS - GUAM

Monthly charge

Dormitory Rate (BSRR)	\$ 68.35
Utility Charge	<u>\$ 66.35</u>

MBRR	\$134.70
-------------	-----------------

Bi-Weekly Charge	\$62.15
-------------------------	----------------

(MBRR x .4615 rounded
to five cents)

Weekly Charge	\$31.10
----------------------	----------------

(MBRR x .2308 rounded
to five cents)

Daily Charge	4.50
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MBRR x .0333 rounded
to five cents)

* Note: An administrative adjustment of -10% is permitted
if 3 or more people must share a bedroom or sleeping area.

F. Transient Quarters.

Transient quarters are those which are occupied on a transient basis, normally for a period of 90 days or less. Government provided transient quarters offer a range of accommodations. At some locations kitchen facilities, private telephones and private bathrooms may be available; at others, they are not provided. At some locations, maid service is provided (with varying degrees of frequency); at other locations, employees are "issued" bedding and other domestic items, and must do their own housekeeping.

Given the diversity of facilities and services associated with Government transient quarters, the QMIS National Quarters Council determined that comparable private housing generally does not exist. Accordingly, the rental charges for transient quarters have been established using an extension of the principle of comparability, as provided in OMB Circular A-45. Essentially, the rental charge for transient quarters is the sum of the monthly dormitory rate (see Table 4); a monthly charge for maid service (Table 10); and a 20 percent administrative/service charge required by OMB Circular A-45 paragraph 7.c(4)(a). The monthly, weekly and daily charges for transient quarters are shown in Table 5, below.

TABLE NO. 5

TRANSIENT QUARTERS RENTS - GUAM

Dormitory BSRR	\$68.35
Utility Charge (Table 4)	66.35
Maid Service (Table 11)	<u>60.90</u>
Subtotal	\$195.60
Administrative Charge (OMB Cir. A-45)	<u>x 1.20</u>
Total (rounded)	\$234.70
 Monthly Charge, Rounded	 \$234.70
Bi-Weekly Charge, Rounded ($\$234.70 \times .4615$)	\$108.30
Weekly Charge, Rounded ($\$234.70 \times .2308$)	\$ 54.15
Daily Charge, Rounded ($\$234.70 \times .0333$)	\$ 7.80

V. CHARGES FOR UTILITIES, APPLIANCES AND RELATED SERVICES.

A. Background.

Office of Management and Budget Circular A-45 requires that, whenever possible, utilities should be provided by a private company and billed directly to quarters occupants. Where Government-furnished utilities are provided, they should be metered or measured. When Government-furnished utilities are not metered or measured, consumption will be determined from an analysis of the average amounts of utilities used in comparable private housing in the nearest established community or survey area. The utility rates contained in this report include all applicable delivery charges, adjustments, taxes and surcharges. Charges for Government-provided appliances, services and furnishings are based upon nationwide average costs.

The following sections of this report detail the consumption and cost data to be used in the circumstances described above. The cost data in this report will be updated by the QMIS Office each year and distributed with the Consumer Price Index (CPI) adjustment that takes effect each year.

B. Energy Consumption Study.

1. **General.** Energy consumption estimates are required where the Government furnishes electricity, and where consumption is neither metered nor measured. In such instances, average electric consumption must be estimated and the Government must assess a charge based on private sector electricity costs.

No methodology for estimating electricity consumption can exactly predict the energy needed to cool specific dwellings, and to operate household equipment and appliances. Precise consumption measurements are possible only by using meters. However, the methodologies used in this report will yield reasonable estimates of the energy consumed in unmetered dwellings. The methodology employed in this section was contractor-developed. For this report, however, the contractor-provided tables and conversion charts have been reformatted, and the methodology has been restated to simplify the process of estimating energy consumption requirements.

The unit costs for electricity (cost per Kwh) are based upon the Guam residential electricity tariff, and include all applicable taxes, surcharges and adjustments.

2. **Housing Prototypes.** For the Guam Energy Study, individual estimates of the cooling energy requirements were prepared for each of the following five prototypical housing units.

Type I - Single family, one story, no basement

Type II - Single family, one story, full basement

Type III - Single family, two story, no basement

Type IV - Single family, two story, full basement

Type V - Apartment unit

3. **Assumptions**. For each of the housing prototypes, the following assumptions were made:

a. Location. - The housing is located in Guam.

b. R values. - Each housing type has the R values of insulation in floors, walls, and ceilings recommended in the HUD Minimum Property Standards (HUD-MPS) for Guam.

c. Occupants. - The housing contains an average compliment of occupants who are energy conscious (one person per 500 feet of floor space was assumed).

d. All measurements are of finished living space only and are based upon exterior dimensions.

e. Condition. - The housing is in good condition.

f. Building shape. - A rectangular shape with a ratio of 2:1 was established. This provides more building skin than a square configuration therefore, the rectangular shape yields a conservative estimate of skin loads.

g. Window area. - A window area of 10 percent of wall area was used to match UBC (Uniform Building Code) minimum window area standards.

h. Roof type. - A flat or pitched roof with ceiling insulation was assumed in all cases.

i. Air changes. - 1.5 air changes per hour was established as representing a conservative estimate of air changes in residential applications.

j. Perimeter loss. - Approximately 10 percent of overall building load is attributed to the slab on grade floors with rigid insulation to a value of R-6.

4. Using the above assumptions, along with infiltration factors developed by the Department of Energy, R values, building dimensions, and cooling and heating degree days, the contractor has formulated a methodology for estimating kilowatt hour (KwH) consumption rates, and costs, for space cooling. The relevant portions of these methodology is explained below.

C. Space Heating Energy Consumption/Cost.

The methodology for determining the quantity and cost of energy required for space heating is not presented in this report. Since there are no heating degree days in Guam, the Government furnished quarters in Guam do not have space heating systems.

D. Space Cooling Energy Consumption/Cost - Electricity.

To illustrate the procedure for calculating the cost of cooling with electricity, a single-story 1,850 house, with no basement, located in Guam, will be used as an example.

1. **Step 1: Table Selection.** Select the table (Table 6a through 6e) which most closely describes the quarters unit at issue. Table 6a (single-family, 1-story, no-basement house - prototype I) should be selected.

2. **Step 2: Annual Kwh Consumption.** Determine from Table 6a the annual Kwh consumption appropriate for the cooling degree days (CDD's) and the gross square footage of the house in this example. Use the table as follows.

(a) Determine the number of CDD's for the established community or area closest to the quarters. The records of the National Oceanic and Atmospheric Administration's, National Climatic Center, reflect that the 30-year average annual CDD figure for Guam is 6,016. That is, over the most recent 30-year period, Guam has had an average of 6,016 CDD's, per year. As 6,016 CDD's lies just above the column headed 5,500 (see Table 6a), the 5,500 column should be used in determining the number of kilowatts of electricity to cool the dwelling in this example.

(b) In Table 6a, 1,850 square feet (the size of the house used in this example) lies between 1,800 and 2,000 square feet. Round down to 1,800 square feet.

(c) From Table 6a (1,850 square feet and 5,500 CDD's) the **annual** Kwh consumption rate is determined to be 26,132 Kwh.

3. **Step 3: Monthly Consumption.** Calculate the monthly Kwh consumption by dividing the annual Kwh consumption by 12 (months). In this example, the monthly consumption (rounded) is 2,178 Kwh ($26,132 / 12$).

4. **Step 4: Hud Minimum Property Standard (MPS) Cooling Zone Adjustment.** The HUD Minimum Property Standard (MPS) Cooling Zone adjustment is made as follows.

(a) Use Table 7 to determine the adjustment factor for the appropriate dwelling unit type in HUD MPS Zone 1 (the zone in which Guam is located). As shown, the factor for housing prototype I in HUD MPS Zone 1 is 2.12.

(b) Multiply the monthly electric consumption (as computed in Step 3, above) times the HUD MPS Zone adjustment factor. Thus, $2,178 \times 2.12 = 4,617$ per month.

5. **Step 5: Adjustment for Coefficient of Performance (COP).** This adjustment accounts for the differences in the efficiencies of evaporative (swamp) and refrigerated air central cooling systems.

(a) Evaporative (swamp) cooling. For a central evaporative cooling system the adjusted Kwh (computed in Step 4, above) is divided by a factor of 6.66. In this example, the monthly Kwh requirement for central evaporative cooling is computed as $4,617 / 6.66 = 693.24$, or 693 Kwh per month.

(b) Refrigerated air cooling. For a central refrigerated air cooling system, the adjusted Kwh (computed in step 4, above) is divided by a factor of 2. In this example, the monthly Kwh requirement for central refrigerated air cooling is computed as $4,617 / 2 = 2,308.5$, or 2,309 Kwh per month.

6. **Step 6: Monthly Charge.** The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the charge per Kwh times the Kwh of electricity consumed per month. The appropriate unit charge per Kwh may be found in the following table.

<u>Kwh Consumed per Month</u>	<u>Charge per Kwh</u>
1 - 500	\$0.10
501 - 1,000	\$0.112
1,001 - 1,500	\$0.116
Over 1,500	\$0.118

In this example, the average monthly electrical consumption (693 Kwh for evaporative cooling and 2,309 Kwh for refrigerated cooling) falls in the "over 500 Kwh" consumption range. The appropriate charge is \$0.112 per Kwh for evaporative cooling and \$0.118 per Kwh for refrigerated cooling. Therefore, the monthly charges for cooling the apartment used in this example would be computed as shown below.

Evaporative cooling: $693 \text{ Kwh} \times \$0.112 = \77.62

Refrigerated cooling: $2,309 \text{ Kwh} \times \$0.118 = \$272.46$

TABLE NO. 6a

ANNUAL KILOWATT HOUR (Kwh) CONSUMPTION - PROTOTYPE I

(Single-Family, One-Story, Partial (Less Than 50 %) or No Basement)

Gross Square Feet	HEATING or COOLING DEGREE DAYS																	
	100	200	500	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	5500
100	26	53	132	264	330	396	462	528	594	660	726	792	858	924	990	1056	1122	1452
200	53	106	264	528	660	792	924	1056	1188	1320	1452	1584	1716	1848	1980	2112	2244	2904
400	106	211	528	1056	1320	1584	1848	2112	2376	2640	2904	3168	3431	3695	3959	4223	4487	5808
600	158	317	792	1584	1980	2376	2772	3168	3563	3959	4355	4751	5147	5543	5939	6335	6731	8710
800	211	422	1056	2112	2640	3168	3695	4223	4751	5279	5807	6335	6863	7391	7919	8447	8975	11614
1000	264	528	1320	2640	3300	3959	4619	5279	5939	6599	7259	7919	8579	9239	9899	10558	11218	14518
1200	317	634	1584	3168	3959	4751	5543	6335	7127	7919	8711	9503	10294	11086	11878	12670	13462	17422
1400	370	739	1848	3695	4619	5543	6467	7391	8315	9239	10163	11086	12010	12934	13858	14782	15706	20326
1600	422	845	2112	4223	5279	6335	7391	8447	9503	10558	11614	12670	13726	14782	15838	16894	17949	23228
1800	475	950	2376	4751	5939	7127	8315	9503	10690	11878	13066	14254	15442	16630	17817	19005	20193	26132
2000	528	1056	2640	5279	6599	7919	9239	10558	11878	13198	14518	15838	17157	18477	19797	21117	22437	29036
2200	581	1161	2904	5807	7259	8711	10163	11614	13066	14518	15970	17421	18873	20325	21777	23229	24680	31940
2400	634	1267	3168	6335	7919	9503	11086	12670	14254	15838	17421	19005	20589	22173	23757	25340	26924	34842
2600	686	1373	3431	6863	8579	10294	12010	13726	15442	17157	18873	20589	22305	24020	25736	27452	29168	37746
2800	739	1478	3695	7391	9239	11086	12934	14782	16630	18477	20325	22173	24020	25868	27716	29564	31411	40650
3000	792	1584	3959	7919	9899	11878	13858	15838	17817	19797	21777	23757	25736	27716	29696	31675	33655	43554

TABLE NO. 6b
ANNUAL KILOWATT HOUR (KwH) CONSUMPTION - PROTOTYPE II
(Single-Family, One-Story, Full Basement)

Gross Square Feet	HEATING or COOLING DEGREE DAYS																	
	100	200	500	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	5500
100	20	41	102	204	255	306	357	408	459	511	562	613	664	715	766	817	868	1124
200	41	82	204	408	511	613	715	817	919	1021	1123	1225	1327	1429	1532	1634	1736	2246
400	82	163	408	817	1021	1225	1429	1634	1838	2042	2246	2450	2655	2859	3063	3267	3472	4492
600	123	245	613	1225	1532	1838	2144	2450	2757	3063	3369	3676	3982	4288	4595	4901	5207	6738
800	163	327	817	1634	2042	2450	2859	3267	3676	4084	4493	4901	5309	5718	6126	6535	6943	8986
1000	204	408	1021	2042	2553	3063	3574	4084	4595	5105	5616	6126	6637	7147	7658	8168	8679	11232
1200	245	490	1225	2450	3063	3676	4288	4901	5514	6126	6739	7351	7964	8577	9189	9802	10415	13478
1400	286	572	1429	2859	3574	4288	5003	5718	6433	7147	7862	8577	9291	10006	10721	11436	12150	15724
1600	327	653	1634	3267	4084	4901	5718	6535	7351	8168	8985	9802	10619	11436	12252	13069	13886	17970
1800	368	735	1838	3676	4595	5514	6433	7351	8270	9189	10108	11027	11946	12865	13784	14703	15622	20216
2000	408	817	2042	4084	5105	6126	7147	8168	9189	10210	11231	12252	13273	14295	15316	16337	17358	22462
2200	449	899	2246	4493	5616	6739	7862	8985	10108	11231	12355	13478	14601	15724	16847	17970	19093	24710
2400	490	980	2450	4901	6126	7351	8577	9802	11027	12252	13478	14703	15928	17153	18379	19604	20829	26956
2600	531	1062	2655	5309	6637	7964	9291	10619	11946	13273	14601	15928	17256	18583	19910	21238	22565	29202
2800	572	1144	2859	5718	7147	8577	10006	11436	12865	14295	15724	17153	18583	20012	21442	22871	24301	31448
3000	613	1225	3063	6126	7658	9189	10721	12252	13784	15316	16847	18379	19910	21442	22973	24505	26036	33694

TABLE NO. 6c
ANNUAL KILOWATT HOUR (KwH) CONSUMPTION - PROTOTYPE III
(Single-Family, Two-Story, Partial (Less Than 50%) or No Basement)

Gross Square Feet	HEATING or COOLING DEGREE DAYS																	
	100	200	500	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	5500
100	23	46	115	230	288	345	403	460	518	575	633	690	748	805	863	920	978	1266
200	46	92	230	460	575	690	805	920	1035	1150	1265	1380	1495	1610	1725	1840	1955	2530
400	92	184	460	920	1150	1380	1610	1840	2070	2300	2530	2760	2990	3220	3450	3680	3910	5060
600	138	276	690	1380	1725	2070	2415	2760	3105	3450	3795	4140	4485	4830	5176	5521	5866	7590
800	184	368	920	1840	2300	2760	3220	3680	4140	4600	5061	5521	5981	6441	6901	7361	7821	10122
1000	230	460	1150	2300	2875	3450	4025	4600	5176	5751	6326	6901	7476	8051	8626	9201	9776	12652
1200	276	552	1380	2760	3450	4140	4830	5521	6211	6901	7591	8281	8971	9661	10351	11041	11731	15182
1400	322	644	1610	3220	4025	4830	5636	6441	7246	8051	8856	9661	10466	11271	12076	12881	13686	17712
1600	368	736	1840	3680	4600	5521	6441	7361	8281	9201	10121	11041	11961	12881	13801	14721	15642	20242
1800	414	828	2070	4140	5176	6211	7246	8281	9316	10351	11386	12421	13456	14491	15527	16562	17597	22772
2000	460	920	2300	4600	5751	6901	8051	9201	10351	11501	12651	13801	14952	16102	17252	18402	19552	25302
2200	506	1012	2530	5061	6326	7591	8856	10121	11386	12651	13916	15182	16447	17712	18977	20242	21507	27832
2400	552	1104	2760	5521	6901	8281	9661	11041	12421	13801	15182	16562	17942	19322	20702	22082	23462	30364
2600	598	1196	2990	5981	7476	8971	10466	11961	13456	14952	16447	17942	19437	20932	22427	23922	25418	32894
2800	644	1288	3220	6441	8051	9661	11271	12881	14491	16102	17712	19322	20932	22542	24152	25763	27373	35424
3000	690	1380	3450	6901	8626	10351	12076	13801	15527	17252	18977	20702	22427	24152	25878	27603	29328	37954

TABLE NO. 6d
ANNUAL KILOWATT HOUR (KwH) CONSUMPTION - PROTOTYPE IV
(Single-Family, Two-Story, Full Basement)

Gross Square Feet	HEATING or COOLING DEGREE DAYS																	
	100	200	500	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	5500
100	25	51	126	253	316	379	442	505	568	632	695	758	821	884	947	1011	1074	1390
200	51	101	253	505	632	758	884	1011	1137	1263	1390	1516	1642	1769	1895	2021	2148	2780
400	101	202	505	1011	1263	1516	1769	2021	2274	2526	2779	3032	3284	3537	3790	4042	4295	5558
600	152	303	758	1516	1895	2274	2653	3032	3411	3790	4169	4548	4927	5306	5685	6064	6443	8338
800	202	404	1011	2021	2526	3032	3537	4042	4548	5053	5558	6064	6569	7074	7579	8085	8590	11116
1000	253	505	1263	2526	3158	3790	4421	5053	5685	6316	6948	7579	8211	8843	9474	10106	10738	13896
1200	303	606	1516	3032	3790	4548	5306	6064	6822	7579	8337	9095	9853	10611	11369	12127	12885	16674
1400	354	707	1769	3537	4421	5306	6190	7074	7958	8843	9727	10611	11496	12380	13264	14148	15033	19454
1600	404	808	2021	4042	5053	6064	7074	8085	9095	10106	11117	12127	13138	14148	15159	16170	17180	22234
1800	455	910	2274	4548	5685	6822	7958	9095	10232	11369	12506	13643	14780	15917	17054	18191	19328	25012
2000	505	1011	2526	5053	6316	7579	8843	10106	11369	12632	13896	15159	16422	17685	18949	20212	21475	27792
2200	556	1112	2779	5558	6948	8337	9727	11117	12506	13896	15285	16675	18064	19454	20844	22233	23623	30570
2400	606	1213	3032	6064	7579	9095	10611	12127	13643	15159	16675	18191	19707	21222	22738	24254	25770	33350
2600	657	1314	3284	6569	8211	9853	11496	13138	14780	16422	18064	19707	21349	22991	24633	26275	27918	36128
2800	707	1415	3537	7074	8843	10611	12380	14148	15917	17685	19454	21222	22991	24760	26528	28297	30065	38908
3000	758	1516	3790	7579	9474	11369	13264	15159	17054	18949	20844	22738	24633	26528	28423	30318	32213	41688

TABLE NO. 6e

ANNUAL KILOWATT HOUR (KwH) CONSUMPTION - PROTOTYPE V
(Apartments)

Gross Square Feet	HEATING or COOLING DEGREE DAYS																	
	100	200	500	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	5500
100	17	33	83	167	208	250	292	334	375	417	459	500	542	584	625	667	709	918
200	33	67	167	334	417	500	584	667	751	834	917	1001	1084	1168	1251	1334	1418	1834
400	67	133	334	667	834	1001	1168	1334	1501	1668	1835	2001	2168	2335	2502	2669	2835	3670
600	100	200	500	1001	1251	1501	1751	2001	2252	2502	2752	3002	3252	3503	3753	4003	4253	5504
800	133	267	667	1334	1668	2001	2335	2669	3002	3336	3669	4003	4337	4670	5004	5337	5671	7338
1000	167	334	834	1668	2085	2502	2919	3336	3753	4170	4587	5004	5421	5838	6255	6672	7089	9174
1200	200	400	1001	2001	2502	3002	3503	4003	4503	5004	5504	6004	6505	7005	7505	8006	8506	11008
1400	234	467	1168	2335	2919	3503	4086	4670	5254	5838	6421	7005	7589	8173	8756	9340	9924	12842
1600	267	534	1334	2669	3336	4003	4670	5337	6004	6672	7339	8006	8673	9340	10007	10674	11342	14678
1800	300	600	1501	3002	3753	4503	5254	6004	6755	7505	8256	9007	9757	10508	11258	12009	12759	16512
2000	334	667	1668	3336	4170	5004	5838	6672	7505	8339	9173	10007	10841	11675	12509	13343	14177	18346
2200	367	734	1835	3669	4587	5504	6421	7339	8256	9173	10091	11008	11925	12843	13760	14677	15595	20182
2400	400	801	2001	4003	5004	6004	7005	8006	9007	10007	11008	12009	13010	14010	15011	16012	17012	22016
2600	434	867	2168	4337	5421	6505	7589	8673	9757	10841	11925	13010	14094	15178	16262	17346	18430	23850
2800	467	934	2335	4670	5838	7005	8173	9340	10508	11675	12843	14010	15178	16345	17513	18680	19848	25686
3000	500	1001	2502	5004	6255	7505	8756	10007	11258	12509	13760	15011	16262	17513	18764	20015	21266	27520

Table 7

MPS COOLING ZONE CONVERSION FACTORS

Dwelling Prototypes					
	I	II	III	IV	V
HUD MPS Heating <u>Zone</u>	Single Story No <u>Basement</u>	Single Story Full <u>Basement</u>	Double Story No <u>Basement</u>	Double Story Full <u>Basement</u>	Apart- ments
1	2.12	1.96	2.06	2.08	1.87

E. Non-Space Cooling Energy Consumption/Cost.

The example in the preceding section (V.D) dealt with the charges for space cooling. However, to compute total energy usage charges, the cost of energy consumed by equipment, lights and appliances (Government and tenant owned) must be determined and added to the cooling charges.

1. **Consumption.** Electric consumption estimates for appliances, equipment and lights are shown in Table 8. To use Table 8, first, determine the finished floor space square footage range within which a specific quarters unit falls. Then, using the values in Table 8, add the Kwh consumed by each appliance or equipment item which is present in the quarters unit. If a Government quarters unit has more than one (1) refrigerator, freezer or room (window) air conditioner, then multiply the Kwh shown in the table times the number of refrigerators, freezers or room air conditioners that are present in the quarters unit to determine the total monthly Kwh consumption for these appliances.

There may be instances where appliances are fueled by fossil fuels rather than by electricity. Table 8a provides monthly consumption (in MCF or gallons of fuel) for the most common of these. If an appliance listed in Table 8 or Table 8a is not present in the quarters unit at issue, do not include its monthly Kwh consumption when computing the total Kwh consumed by equipment and appliances.

2. **Cost.** The cost of electricity or fossil fuel consumed by appliances and equipment is easily computed by multiplying the total monthly consumption (as determined in the preceding paragraphs) times the appropriate charge per Kwh, MCF or gallon. These unit charges are shown in Table 9.

TABLE NO. 8**Monthly Kwh Consumption: Appliances And Equipment****Gross Square Feet of Living Space**

Appliance/ Equipment	Under 300	301- 500	501- 700	701- 1,100	1,101- 1,300	1,301- 1,500	1,501- 1,900	1,901- 2,100	2,101- 2,500	Over 2,500
Hot water heater	130	130	245	245	370	370	480	480	600	705
Stove / Microwave	45	45	50	50	55	55	60	60	65	70
Refrigerator 1/	45	50	50	50	85	85	85	85	85	85
Clothes washer	20	35	35	35	45	45	45	55	55	65
Clothes dryer	15	15	25	25	35	35	35	35	40	50
Dishwasher	35	35	45	45	60	60	70	70	80	95
Freezer 1/	70	70	70	70	70	70	70	70	70	70
Furnace fan	15	15	20	20	20	25	25	30	30	35
Room air conditioner	65	65	65	65	65	65	65	65	65	65
Television / radio	5	5	10	10	20	20	20	20	25	25
Lights	50	55	75	80	90	90	95	100	120	120
Space heater (por- table) 1/	130	130	130	130	130	130	130	130	130	130
Misc. small appli- ances	30	30	45	45	65	65	75	80	95	105
Engine Heaters	195	195	195	195	195	195	195	195	195	195
Hot Tub	360	360	360	360	360	360	360	360	360	360

1/ If more than one of these appliances are present in a quarters unit, multiply the KWH consumption times the number of appliances to determine the total KWH consumed for each appliance category.

NOTE: FOR APPLIANCES OPERATED BY FOSSIL FUELS, SEE TABLE 8a.

TABLE 8a

MONTHLY FOSSIL FUEL CONSUMPTION: APPLIANCES AND EQUIPMENT

Appliance/ Equipment	Gross Square Feet of Living Space									
	Under 301	301- 500	501- 700	701- 1,100	1,101- 1,300	1,301- 1,500	1,501- 1,900	1,901- 2,100	2,101- 2,500	Over 2,500
Hot water heater										
Natural gas MCF	.55	.55	1.05	1.05	1.58	1.58	2.05	2.05	2.56	3.01
Propane Gallons	5.61	5.61	10.7	10.7	16.1	16.1	20.9	20.9	26.1	30.7
Fuel oil Gallons	3.87	3.87	7.39	7.39	11.1	11.1	14.4	14.4	18.0	21.1
Kitchen Range										
Natural Gas MCF	.19	.21	.21	.21	.36	.36	.36	.36	.36	.36
Propane Gallons	1.94	4.94	2.14	2.14	2.35	2.35	2.65	2.65	2.86	3.06
Fuel oil Gallons	1.34	1.34	1.48	1.49	1.62	1.62	1.83	1.83	1.97	2.11
Refrigerator 1/										
Natural Gas MCF	.19	.21	.21	.21	.36	.36	.36	.36	.36	.36
Propane Gallons	1.94	2.14	2.14	2.14	3.67	3.67	3.67	3.67	3.67	3.67
Clothes dryer										
Natural Gas MCF	.06	.06	.11	.11	.15	.15	.15	.15	.17	.21
Propane Gallons	.61	.61	1.12	1.12	1.53	1.53	1.53	1.53	1.73	2.14
Freezer 1/										
Natural Gas MCF	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
Propane Gallons	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06
Space heater (porta-										
Natural Gas MCF	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
Propane Gallons	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61
Fuel oil Gallons	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87

1/ If more than one of these appliances are present in a quarters unit, multiply the consumption times the number of appliances to determine the total consumed for each appliance category.

NOTE: To compute the cost per month for an appliance that is fueled by a fossil fuel, multiply the consumption listed by the unit cost found in Table 10 of this report.

F. Water and Sewer Consumption/Cost.

In accordance with OMB Circular No. A-45, the amounts charged for Government-provided utilities are to be based upon residential service rates and consumption levels applicable to private rental housing in the survey area.

Where the water service is **unmetered**, and where the Government furnishes water and sewer services, including well water and septic waste disposal systems, the monthly charges, shown below, shall be used. These charges are based upon (1) the average of the monthly service costs (including taxes, service charges, etc.) in Guam; and (2) consumption levels (based on numbers of bedrooms) contained in planning guides published by the Department of Housing and Urban Development (HUD).

Monthly Water and Sewer Charges - Unmetered Service

<u>Number of Bedrooms</u>	<u>Monthly Charges</u>	<u>Total</u>
1 (or less)	\$13.20 water + \$20.00 sewer =	\$33.20
2	\$18.00 water + \$20.00 sewer =	\$38.00
3	\$24.00 water + \$20.00 sewer =	\$44.00
4 (or over)	\$30.00 water + \$20.00 sewer =	\$50.00

G. Government Provided Metered Utilities.

Where the Government provides the utilities, and the consumption is metered at the quarters unit level, the following unit charges will apply.

TABLE NO. 9
UTILITY CHARGES (COST PER UNIT)

. Electricity:

<u>KwH Consumed</u> <u>Per Month</u>	<u>Charge Per KwH</u>
1 - 500	\$0.10
501 - 1,000	\$0.112
1,001 - 1,500	\$0.116
Over 1,500	\$0.118

. Water and Sewer:

	WATER Cost Per Gallon	SEWER Cost Per Gallon
Water Consumed per Month		
1 - 3,000 Gallons	\$0.0044	\$0.0066
3,001 - 5,000 Gallons	\$0.0036	\$0.0040
5,001 - 7,500 Gallons	\$0.0032	\$0.0026
Over 7,500 Gallons	\$0.0030	\$0.0020

H. Garbage/Trash Removal Service Rates.

In the case of garbage and trash hauling, as with other Government-provided services, OMB Circular No. A-45 requires the charges to be based upon the domestic rates for comparable services provided to occupants of private rental units in the survey area.

The garbage and trash services provided to quarters occupants vary from weekly to daily service. Establishment of a service charge based upon the service in the nearest established community may or may not reflect a similar level of service. Therefore, the charge for garbage and trash collection, when conducted by the Government, will, regardless of quarters type, be **\$8.00 per quarters unit per month.**

I. Charges for Appliances and Related Services.

OMB Circular No. A-45 requires agencies to charge occupants of Government quarters for appliances, furnishings and services which the Government provides with the quarters. The charges for appliances, furnishings and services most typically provided by Federal agencies are found in Table 10. The monthly recapture cost of the items in Table 10 were determined from information gathered by contractors in the survey communities of all QMIS regions, and from special studies conducted by the QMIS Program Office.

Agencies providing appliances, furnishings or services that are not included in Table 10 are responsible for establishing an appropriate monthly charge which reflects the private market value of the item(s) provided. In such cases, the agency or bureau should advise the QMIS Program Office to ensure that subsequent regional survey reports include charges for all Government provided appliances, furnishings and services.

TABLE 10
MONTHLY CHARGES FOR APPLIANCES & RELATED SERVICES

APPLIANCES		SERVICES AND FURNISHINGS	
Range (Gas / Electric) *	(+/-) \$3.70	Storage Shed (Per Unit)	\$2.60
Refrigerator *	(+/-) \$3.40	Furniture (Per Room)	11.85
Clothes Washer	3.90	Swimming Pool	
Clothes Dryer	3.30	Private Pool	60.00
Dishwasher	3.25	Community Pool	20.00
Microwave Oven	1.55	Satellite Dish	15.65
Trash Compactor	3.70	Cable Television	20.35
Freezer	2.00	Premium Channel (Each)	13.65
Freezer (Community)	1.00	Maid Service	60.90
Window Air Conditioner		Lawncare (Per Mowing)	
Refrigerated Unit	4.20	Houses (Excluding Plexes)	17.85
Evaporative (Swamp) Unit	3.15	All Other Classes	8.95
Free Standing Stove	3.75	Snow Removal (Per Removal)	11.00
Fireplace Insert	4.50	Firewood (Per Cord)	113.90
Lawn Mower	3.90		
Hot Tub	34.10	<u>ELECTRIC CREDITS</u>	
		Well pump (0-1 Bedroom)	1.00
		Well pump (2 Bedrooms)	1.60
		Well pump (3 Bedrooms)	2.35
		Well pump (4+ Bedrooms)	3.15
Community Laundry (Non-Coin) Operated)			
Washer Only	2.00		
Dryer Only	1.65		
Washer and Dryer	3.65	Sewer Lift Pump (0-1 Bedroom)	1.00
		Sewer Lift Pump (2 Bedrooms)	1.00
		Sewer Lift Pump (3 Bedrooms)	1.20
		Sewer Lift Pump (4+)	1.60
ISOLATION ADJUSTMENT FACTOR	2.48	Base Radio	1.00
		Remote Control Relay	1.00
		Sump Pump	1.00
		Radon Mitigation Fan	9.30

* If the Government provides one range and refrigerator, no additions or deductions are made.

If the Government does not provide a range or a refrigerator, deduct the amount shown above.

If the Government provides 2 or more ranges or refrigerators, add the amounts shown above for each appliance furnished in excess of one range and one refrigerator.

VI. ADMINISTRATIVE ADJUSTMENTS.

Once the MBRR is established, certain adjustments (e.g. for isolation and amenity deficiencies) are authorized by OMB Circular No. A-45. These administrative adjustments are established by OMB and are not derived from regional surveys conducted by the QMIS Program Office.

The administrative adjustments contained in OMB Circular A-45, and described below, are not authorized for dormitories, bunkhouses, or transient quarters. This is because the rental rates for those housing classes are administratively established, through extensions of the principle of comparability, and are not based directly upon market comparability.

A. Site Amenity Adjustments.

Living conditions at the locations of some Government housing are not always the same as those found in or immediately adjacent to the survey communities. In the survey communities, the amenities listed below (and authorized in OMB Circular A-45) are generally present and their contributory value is included in the contract rent (and accordingly, in the MBRR's determined from the tables in this report). If any of the amenities listed in A-45 (and below) is present at the site of the quarters, no positive adjustment is made for that amenity because its presence is already accounted for in the MBRR. However, the lack of availability of any of the amenities discussed below represents a generally less desirable condition that should be reflected as a **negative** percentage adjustment to the quarters MBRR or CPI-adjusted MBRR (CPI-MBRR), whichever is applicable.

1. **Reliability and adequacy of water supply.** The water delivery system at the quarters site should provide potable water (free of significant discoloration or odor) at adequate pressure at usual outlets. If the water delivery system at the quarters site does not meet these conditions, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

2. **Reliability and adequacy of electric service.** The electric service at the quarters site must equal or exceed a 100-ampere power system, and should provide 24-hour service under **normal** conditions. When evaluating the electric service, housing managers are reminded that OMB Circular A-45 recognizes that occasional temporary power outages are considered to be "**normal**" conditions. Furthermore, if an adequate back-up generator is available, then the electric service amenity will be considered to be reliable and adequate regardless of the reliability of the primary power source. When electric service is inadequate and unreliable, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

3. **Reliability and adequacy of fuel for heating, cooling and cooking.** There should be sufficient fuel storage capacity to meet prevailing weather conditions and needs. Where electricity is used as the heating, cooling or cooking "fuel", an adjustment can only be made when a deduction has been made for unreliable or inadequate electric service (see paragraph

VI.A.2, above). If the fuel delivery/storage system(s) is (are) inadequate, 3 percent should be deducted from the MBRR or the CPI-MBRR, whichever is applicable.

4. **Reliability and adequacy of police protection.** Law enforcement personnel, including Government employees with law enforcement authority, should be available on a 24-hour basis. OMB Circular A-45 defines "**availability**" as the ability of law enforcement officers to respond to emergencies at the quarters site as quickly as a law enforcement officer in the nearest established community could respond to an emergency in the nearest established community.

OMB Circular A-45 further provides that where part-time officers serve the quarters site, the fact that the officers are part-time does not necessarily mean that they are less available than officers in the nearest established community. The important point is that the availability determination must be based on comparative response times (quarters site v.s. the nearest established community) - not the employment conditions of the officers serving the quarters site.

Finally, OMB Circular A-45 provides that gaps in availability due to temporary illness or injury, use of annual leave, temporary duties, training, or other short absences, do not render law enforcement personnel "unavailable" at the quarters site.

If, after applying these guidelines, it is determined that the law enforcement protection at the quarters site is unreliable and inadequate in comparison to the reliability and adequacy of law enforcement protection in the nearest established community, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

5. **Fire insurance availability or reliability and adequacy of fire protection.** Fire insurance should be available (for the quarters) with the premium charge based upon a rating equal to the rating available to comparable housing located in (or adjacent to) the nearest established community. Alternatively, adequate equipment, an adequate supply of water (or fire retardant chemical), and trained personnel should be available on a 24-hour basis to meet foreseeable emergencies. OMB Circular provides that "**...if either element is present, i.e., adequate insurance or an adequate fire fighting capability, no adjustment is authorized**". If both elements are missing, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

6. **Reliability and adequacy of sanitation service.** An adequately functioning sewage disposal system and a solid waste disposal system should be available. OMB Circular A-45 considers septic, cesspool or other systems adequate even though they may require periodic maintenance, as long as they are usable during periods of occupancy. If the sanitation service at the quarters site is unreliable or inadequate, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

7. **Reliability and adequacy of telephone service.** Twenty-four- hour accessibility to commercial telephone facilities should be available. Deductions (except as provided below) are not allowed for occasional temporary interruptions of telephone service. OMB Circular A-

45 allows specific deductions for various levels of service and privacy. These are explained below.

a. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 3 percent if telephone service is unavailable within the employee's quarters or within 100 yards of the quarters.

b. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 2 percent if there is no telephone service within the employees's quarters, but telephone service (either private or party line) is available within 100 yards of the quarters.

c. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 1 percent if telephone service is available in the employee's quarters, but the service is not private line service and/or the service is not accessible on a 24-hour per day basis.

8. **Noise and odors.** If there are frequent disturbing or offensive noises and/or odors at the quarters site, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

9. **Miscellaneous improvements.** One or more of the following improvements should be available at the quarters site: paved roads/ streets, sidewalks or street lights. If any one of these improvements are present, no deduction is authorized. If all three of these improvements are missing (i.e., there are no paved roads/streets **and** there are no sidewalks, **and** there are no street lights), 1 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

B. Isolation Adjustment.

In some cases, Government quarters are located far from the communities from which the sample market rental comparables were obtained. In addition, different transportation or travel categories may serve to further isolate the quarters from the nearest established community. In situations where the quarters location and the travel categories meet the requirements of OMB Circular A-45, an isolation adjustment should be applied. To determine the applicability and amount (if any) of this adjustment, you should follow the steps in the format below. This format is a (modified) reproduction of the appendix to OMB Circular A-45. However, you should use the form prescribed by your agency or bureau when documenting the isolation adjustment.

Isolation Adjustment Computation

- *Step 1.* Determine the one-way distance in miles (from the quarters to the nearest established community) for each category of transportation listed in Figure 1. Enter mileage(s) in the appropriated block(s) under Column B.
- *Step 2.* Multiply mileage figures entered in Column B by point values listed in Column A for each affected category of transportation to produce one-way points for each category. Add 29 points to the category 4 subtotal and 27 points to the category 5 subtotal to reflect relative differences in cost or time by use of these modes of travel.
- *Step 3.* Add all categories of one-way points in Column C to produce one-way points. (The total must exceed 30 points or there is no adjustment for isolation.)

Figure 1

Category of Travel	Column A Point Value		Column B One-way Miles		Column C One-way Points
(1) Paved road or rail	1.0	X	___	=	___
(2) Unpaved but improved road	1.5	X	___	=	___
(3) Unimproved road	2.0	X	___	=	___
(4) Water, snowmobile, pack animal, foot or other special purpose conveyance	2.5	X	___	= ___+29	___
(5) Air	4.0	X	___	= ___+27	___
				=	___

TOTAL ONE-WAY POINTS

- *Step 4.* Calculate the Isolation Adjustment Factor (IAF) using the following formula: Multiply 2 (to reflect round-trip points) by 4 (to reflect number of trips per month) and then multiply by \$x.xx (GSA's current automobile allowance). For example, the GSA mileage allowance, as of the date of this report, is \$0.31 per mile, resulting in a IAF of 2.48.

ISOLATION ADJUSTMENT FACTOR = 2.48

- *Step 5.* Multiply total adjusted points by the Isolation Adjustment Factor to produce the monthly adjustment for isolation (rounded to the nearest whole dollar).

MONTHLY ADJUSTMENT = ___

C. Loss of Privacy.

Some quarters occupants are subject to a loss of privacy during non-duty hours by virtue of public visits which occur several times daily. In other cases, quarters occupants may be inhibited from enjoying the full range of activities normally associated with living in private rental housing (such as where restrictions are imposed on activities in quarters in or near national cemeteries, or where quarters are in view of prison inmates). In such cases, OMB Circular A-45 allows a deduction from the MBRR or CPI-MBRR (whichever is applicable) of up to 10 percent. The Circular instructs housing managers to establish proportional adjustments to reflect situations of less frequency or seriousness in their impact upon privacy or usage, or to reflect seasonal variations.

D. Excessive or Inadequate Size.

Some quarters occupants are provided dwellings that are excessively large or small for their needs. This may be because the range and variety of quarters available at an installation may be much less than that which is available in private rental markets. In such cases, OMB Circular A-45 allows a deduction from the MBRR or the CPI-MBRR (whichever is applicable) of up to 10 percent. The Circular instructs that the deduction should be in direct proportion to the degree of excess or inadequacy, and that the deduction must not continue beyond one month after suitable quarters are made available. Before this adjustment is applied, local housing managers should consult with managers within their agencies or bureaus to determine whether other alternatives (such as closing off rooms and other excess space) would offer a more suitable means of adjustment.

E. Limitations To Administrative Adjustments.

Administrative adjustments cannot be applied without limit. OMB Circular A-45 provides that the MBRR or CPI-MBRR cannot be reduced by more than 50 percent unless an isolation is authorized and applied. For quarters which receive an isolation adjustment, the MBRR or CPI-MBRR may not be reduced by more than 60 percent. These limitations do not apply to excessive heating or cooling adjustments, which are described in paragraph VIII.A of this report.

VII. CONSUMER PRICE INDEX ADJUSTMENTS.

OMB Circular A-45 requires annual verification, and adjustment (when necessary) of the following rental components that are presented in this report: (1) the Monthly Base Rental Rates (MBRR's); (2) the charges for related facilities (utilities, appliances, furnishings and services); and (3) the Isolation Adjustment Factor (IAF). These verifications and adjustments are to be made, essentially, in each interim year between baseline regional surveys.

Generally, OMB Circular A-45 specifies that these changes are to be based upon September index levels of specified components of the Consumer Price Index (CPI); and the GSA

temporary duty mileage allowance in effect as of September 30, of each year. These changes must be implemented at the beginning of the first pay period in March of each following year.

The QMIS Program Office is responsible for determining the amounts of these changes (if any), and for providing QMIS Program participants with the information, the software and the implementing instructions needed to effect the required changes. This information is usually distributed to each National Quarters Officer in November of each year. National, regional or installation quarters managers (as required by your agency or bureau) are responsible for implementing these annual rental adjustments.

VIII. OTHER OMB CIRCULAR A-45 RENT CONSIDERATIONS

A. Excessive Heating or Cooling Costs.

OMB Circular A-45 authorizes a deduction from the Monthly Base Rental Rate (MBRR) or the Consumer Price Index - adjusted Monthly Base Rental Rate (CPI-MBRR), whichever is applicable, when quarters are unusually costly to heat or cool. This adjustment is allowed only when (1) the excessive heating or cooling costs are due to the poor design of the quarters or the lack of adequate insulation/weather-proofing; and (2) when the energy/fuel used for heating and/or cooling is metered. This adjustment will vary from quarters-to-quarters, but is the difference between the actual heating and/or cooling costs paid by the quarters occupant and 125 percent of the cost of heating and/or cooling a comparable (but adequately constructed and insulated) dwelling located in the same climate zone. For more information on this adjustment, you should consult your agency or bureau policies.

B. Incremental Adjustments.

New baseline regional surveys or annual CPI adjustments may occasionally increase quarters rents by more than 25 percent. When this occurs, OMB Circular A-45 allows housing managers to impose the increase incrementally over a period of not more than one year. The Circular also requires that such increases must be applied in equal increments on at least a quarterly basis.

C. Established Community.

OMB Circular A-45 has established the following minimum standards for use in determining which population centers (cities, towns, etc.) may be used as "established communities" when determining quarters rents.

1. An established community must have a year-round population of 1,500 or more (5,000 or more in Alaska). Population determinations must be based upon the most recently conducted decennial census.
2. An established community must have at least one doctor and one dentist available to all quarters occupants on a non-emergency basis.
3. An established community must have a private rental market with housing available to the general public. This requirement excludes communities on military posts, Indian reservations and other Government installations which may meet the other criteria contained in paragraphs VIII.C.1 and 2, above.